

1 (a) expressing interferon- α in *E. coli* transformed with a vector comprising
2 an *E. coli* alkaline phosphatase (phoA) promoter operably linked to a nucleotide sequence
3 encoding the signal peptide for the heat stable enterotoxin II (STII) of *E. coli*, said nucleotide
4 sequence encoding the signal peptide being operably linked to a nucleotide sequence which
5 codes for mature interferon- α ; and

6 (b) isolating the expressed interferon- α .

1 ¹²
2 ~~17.~~ (Twice amended) A vector for expressing interferon- α in *E. coli*,
3 comprising an *E. coli* alkaline phosphatase (phoA) promoter operably linked to a DNA
4 molecule coding for the signal peptide of the heat stable enterotoxin II (STII) of *E. coli*,
5 wherein said nucleotide sequence coding for the signal peptide is operably linked to a DNA
6 molecule which codes for mature human interferon- α .

Please add the following new claims:

--25. A method for the efficient production of correctly folded and disulfide bond-linked interferon- α in *E. coli*, comprising the steps of:

(a) expressing interferon- α in *E. coli* transformed with a vector comprising
an *E. coli* alkaline phosphatase (phoA) promoter operably linked to a nucleotide sequence
encoding the signal peptide for the heat stable enterotoxin II (STII) of *E. coli*, said signal
peptide being operably linked to a nucleotide sequence which codes for mature interferon- α
to give a biomass; and

(b) isolating the expressed interferon- α from the biomass.

26. The method of claim 25, wherein said interferon- α is interferon- α 2.

27. The method of claim 26, wherein said interferon- α 2 is encoded by an amino acid sequence comprising the sequence of SEQ ID NO:5.

28. The method of claim 26, wherein said interferon- α 2 is encoded by a nucleotide sequence comprising the sequence of SEQ ID NO:6 or a sequence encoding interferon- α which has more than about 70% sequence identity with this sequence.

29. The method of claim 26, wherein said interferon- α 2 is encoded by a nucleotide sequence comprising the sequence of SEQ ID NO:7 or a sequence encoding interferon- α which has more than about 70% sequence identity with this sequence.

30. The method of claim 25, wherein 340 ± 100 mg of said interferon- α is obtained from 1 kg of the biomass in step (b).

Remarks

Claims 2 and 18 have been canceled, claims 1 and 17 have been amended, and new claims 25-30 have been added. Claims 1, 3-9, 17, 19-21, and 24-30 are thus pending in the above-captioned application.